Amendments to the Claims

Please amend Claims 11, 16, 18-20 and 30. Please add new Claims 38-40. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Withdrawn) A method of differentiating HCV genotype 1 (HCV-1) from HCV genotypes 2 and 3 (HCV-2 and HCV-3) in a sample, comprising:

subjecting the sample to an amplification reaction using at least one primer that anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome; and

detecting the product of the amplification reaction.

2. (Withdrawn) The method of Claim 1, wherein the amplification reaction is the polymerase chain reaction (PCR) or reverse transcriptase polymerase chain reaction (RT-PCR).

3. (Withdrawn) The method of Claim 1, further comprising:

detecting whether any HCV genotype is present in the sample by subjecting the sample to an amplification reaction using primers that anneal to a region of the 5' NCR that is conserved between all HCV genotypes; and

detecting the product of this amplification reaction.

4. (Withdrawn) The method of Claim 3, wherein the primers have the following sequences:

Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

5. (Withdrawn) The method of Claim 1, further comprising subjecting the sample to a preliminary amplification reaction to isolate HCV material using primers universal for all HCV genotypes.

6. (Withdrawn) The method of Claim 5, wherein the primers comprise the following sequences:

Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5).

7. (Withdrawn) The method of Claim 1, wherein the at least one primer which anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome comprises the sequence:

CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1).

8. (Withdrawn) The method of Claim 7, wherein the at least one primer that anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome is a forward primer and the reverse primer comprises the sequence:

5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

9. (Withdrawn) The method of Claim 1, wherein detection of the amplification reaction product is by agarose gel electrophoresis.

10. (Withdrawn) The method of Claim 1, wherein detection of the amplification reaction product is by fluorescent analysis in which amplification of HCV-1 specific nucleic acid causes fluorescence of a probe.

11. (Withdrawn – Currently Amended) The method of Claim 10, wherein the probe comprises the sequence:

5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6)

where F=6-FAM[[,]]; 3'-T[[+]]=TAMRA.

12. (Withdrawn) The method of Claim 1, wherein detection of the amplification reaction product is by one or more molecular beacon primers.

13. (Withdrawn) The method of Claim 12, wherein the molecular beacon primer comprises the sequence:

5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3'

(F=FAM; M=MeREDdU and U=Uracil) (*MBP-LR-1*, SEQ ID NO:7).

14. (Withdrawn) The method of Claim 13, wherein the molecular beacon primer is a forward primer and the reverse primer comprises the sequence:

5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

15. (Withdrawn) The method of Claim 2, wherein the primers that anneal to a region of the 5' NCR that is conserved between all HCV genotypes comprise the following sequences:

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU and U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

16. (Currently amended) A kit for detecting HCV genotype 1 (HCV-1) in a sample, comprising at least one primer or probe that anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome.

17. (Canceled)

18. (Currently amended) An isolated and purified oligonucleotide suitable for use in an amplification reaction comprising one of the following sequences:

~~5' CGT CTA GCC CTG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)~~

~~5' GCA GTA CCA CAA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)~~

5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5)

5' CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1)

5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU AND U=Uracil) (*MBP-LR-1*, SEQ ID NO:7)

5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU AND U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8.

19. (Currently amended) A pair of isolated and purified primers comprising a nucleotide molecule[[s]] having the following sequence:

~~Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)~~

~~Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)~~

Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5)

Forward: 5' CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU AND U=Uracil) (*MBP-LR-1*, SEQ ID NO:7)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU AND U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

20. (Currently amended) An oligonucleotide suitable for use as a probe comprising the sequence:

5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6)

(where F=6-FAM[[,]]≥3'-T[[+]]≡TAMRA).

21. (Withdrawn) A method of differentiating HCV genotype 1 (HCV-1) from HCV genotypes 2 and 3 (HCV-2 and HCV-3) in a sample, comprising:

subjecting the sample to an amplification reaction using at least one primer that anneals to the genome of HCV, a polymerase having a 5'-3' exonuclease activity and an oligonucleotide probe, wherein the probe anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome and wherein the probe incorporates a modified nucleotide having a fluorescent characteristic that is modified by one or more neighboring nucleotides; and

detecting a change in fluorescence as the oligonucleotide probe is degraded by the exonuclease activity of the polymerase as the polymerase extends the primer and modification of the fluorescent characteristic of the modified nucleotide is reduced.

22. (Previously Presented) The kit of Claim 16, wherein the primer allows for amplification by the polymerase chain reaction (PCR) or reverse transcriptase polymerase chain reaction (RT-PCR).

23. (Previously Presented) The kit of Claim 16, further comprising primers of a primer pair that allows for an amplification reaction of a region of the 5' NCR that is conserved among all HCV genotypes.

24. (Previously Presented) The kit of Claim 23, wherein the primers of the primer pair have the following sequences:

Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

25. (Previously Presented) The kit of Claim 16, further comprising reagents and primers suitable for a preliminary amplification reaction to isolate HCV material using primers universal for all HCV genotypes.

26. (Withdrawn) The kit of Claim 25, wherein the primers universal for all HCV genotypes comprise the following sequences:

Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5).

27. (Previously Presented) The kit of Claim 16, wherein the at least one primer that anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome comprises the sequence: CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1).

28. (Previously Presented) The kit of Claim 27, wherein the at least one primer that anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome is a forward primer and the reverse primer comprises the sequence: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

29. (Previously Presented) The kit of Claim 16, further comprising reagents sufficient for detection of amplification products by fluorescent analysis in which amplification of HCV-1 specific nucleic acid causes fluorescence of a probe.

30. (Currently amended) The kit of Claim 29, wherein the probe comprises the sequence:

5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6)

where F=6-FAM[[,]];_3'-T[[+]]=TAMRA.

31. (Previously Presented) The kit of Claim 16, further comprising one or more molecular beacon primers for detection of amplification reaction products.

32. (Previously Presented) The kit of Claim 31, wherein the molecular beacon primer comprises the sequence:
5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU and U=Uracil) (*MBP-LR-1*, SEQ ID NO:7).

33. (Previously Presented) The kit of Claim 32, wherein the molecular beacon primer is a forward primer and the reverse primer comprises the sequence:
5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

34. (Withdrawn) The kit of Claim 23 wherein the primers of the primer pair comprise the following sequences:

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU and U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

35. (Previously presented) An oligonucleotide comprising SEQ ID NO:7.

36. (Previously presented) A kit for detecting HCV genotype 1 (HCV-1) in a sample, the kit comprising the oligonucleotide of Claim 35, and further comprising an oligonucleotide comprising SEQ ID NO:2.

37. (Withdrawn) A kit for detecting HCV genotype 1 (HCV-1) in a sample, the kit comprising the oligonucleotide of Claim 35, and further comprising an oligonucleotide comprising SEQ ID NO:5.

38. (New) The kit of Claim 16, wherein the primer or the probe anneals specifically to the region between residues -134 and -118 of the 5' NCR of the HCV-1 genome.

39. (New) An isolated and purified oligonucleotide suitable for use in an amplification reaction consisting of one of the following sequences:
5' CGT CTA GCC CTG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)
5' GCA GTA CCA CAA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

40. (New) An oligonucleotide comprising SEQ ID NO:1.